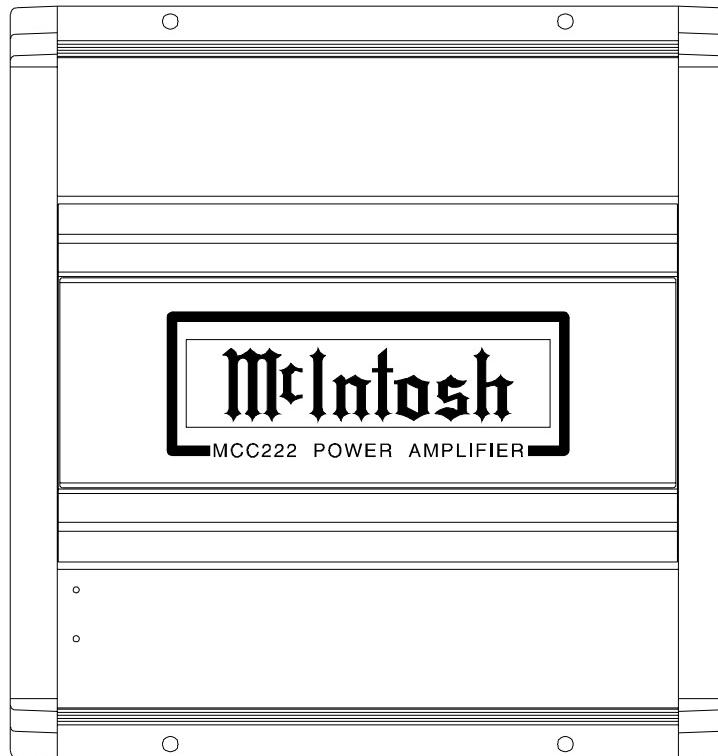




OWNER'S
MANUAL

MCC222 Power Amplifier



MCC222



Thank You, Please Take A Moment, Customer Service and Table of Contents

Thank You

For your decision to own this McIntosh MCC222 Power Amplifier ranks you at the very top among discriminating music listeners. You now have "The Best." The McIntosh dedication to "Quality," is assurance that you will receive many years of musical enjoyment from this unit.

Please take a short time to read the information in this manual. We want you to be as familiar as possible with all the features and functions of your new McIntosh MCC222. This will ensure that you receive all the performance benefits this equipment can offer you, and that it will become a highly valued part of your vehicle entertainment system.

Please Take A Moment

The serial number, purchase date and McIntosh dealer name are important to you for possible insurance claim or future service. The serial number is located on the rear panel of the equipment. The spaces below have been provided for you to record that information:

Serial Number: _____

Purchase Date: _____

Dealer Name: _____

Customer Service

If at any time you have questions about your McIntosh MCC222 Power Amplifier, contact your McIntosh dealer. Your dealer is familiar with your McIntosh equipment as well as other brands that may be included in your system and is best qualified to help you.

If it is determined that your MCC222 is in need of repair, you can return it to your dealer or you can return it to McIntosh Laboratory. Contact the McIntosh Repair Department for assistance at,

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3512
FAX: 607-724-0549

Table of Contents

Thank You	2
Please Take a Moment	2
Customer Service	2
Table of Contents	2
Safety Instructions	3
Introduction	4
Performance Features	4
Installation	5
Side Panels Connections	6
How to Connect	7
Top Panel Controls, Displays and Switch	8
How to Operate	9
Specifications	10
Packing Instruction	11

NOTES:

- 1. Do not connect the McIntosh Amplifier Speaker Negative Terminal Connection directly to the Vehicle Chassis. Also do not connect the Loudspeaker Negative Terminal Connection directly to the Vehicle Chassis. Failure to observe the connection procedures as outlined in this owners manual could result in damage to your McIntosh Amplifier.*
- 2. For additional connection information, refer to the owner's manual(s) for any component(s) connected to the MCC82 Amplifier.*
- 3. There is a built-in turn on delay which will mute the speaker outputs for approximately two seconds when the amplifier is turned on.*
- 4. It is very important that loudspeaker cables of adequate size be used in your music system, to ensure that there will be no power loss or heating. Cable size is specified in Gauge numbers or AWG, (American Wire Gauge). The smaller the Gauge number, the larger the wire size:
If your loudspeaker cables are 25 feet (7.62m) or less, use at least 18 Gauge (AWG) wire size or larger.
If your loudspeaker cables are over 25 feet (38.1m) or less, use at least 16 Gauge (AWG) wire size or larger.*

IMPORTANT SAFETY INSTRUCTIONS!

PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.



WARNING SHOCK HAZARD - DO NOT OPEN.

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



AVIS RISQUE DE CHOC - NE PAS OUVRIR.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL

To prevent the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified personnel.

General:

1. Read all the safety and operating instructions, contained in this owner's manual, before operating this equipment.
2. Retain this owner's manual for future reference about safety and operating instructions.
3. Adhere to all warnings and operating instructions.
4. Follow all operating and use instructions.
5. **Warning: To reduce risk of fire or electrical shock, do not expose this equipment to rain or moisture. This unit is capable of producing high sound pressure levels. Continued exposure to high sound pressure levels can cause permanent hearing impairment or loss. User caution is advised and ear protection is recommended when playing at high volumes.**
6. **Caution: to prevent electrical shock do not use this equipment other than as described in this owner's manual.**

7. Do not use attachments not recommended in this owner's manual as they may cause hazards.

Installation:

8. Locate the equipment for proper ventilation. For example, the equipment should not be placed where the ventilation openings may be blocked as, that will impede the flow of air through the ventilation openings.
9. Locate the equipment away from heat sources such as heater ducts or other power amplifiers that produce heat.
10. Mount the equipment only as described in this owner's manual.
11. Do not use this equipment near water.
12. Do not place this product on an unstable bracket. The equipment may fall, causing serious injury to a person, and serious damage to the product.

Connection:

13. Connect this equipment only to the type of DC power source as marked on the unit.
14. Route DC power cords so that they are not likely to be pinched by items placed upon or against them, paying particular attention to the point where they enter the instrument.

Care of Equipment:

15. Clean the instrument by dusting with a dry cloth. Disconnect this equipment from the DC power supply and clean the panel with a cloth moistened with a window cleaner. Do not use liquid cleaners or aerosol cleaners.
16. Do not permit objects of any kind to be pushed and/or fall into the equipment through enclosure openings. Never spill liquids into the equipment through enclosure openings.

Repair of Equipment:

17. Disconnect this equipment from the DC power supply and refer servicing to a qualified service personnel under the following conditions:
 - A. The DC power cord or the connectors have been damaged.
 - B. Objects have fallen, or liquid has been spilled into the equipment.
 - C. The equipment has been exposed to rain or water.
 - D. The equipment does not operate normally by following the operating instructions contained within this owner's manual. Adjust only those controls



Safety Instructions con't, Introduction and Performance Features

that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

- E. The equipment has been dropped or damaged in any way.
 - F. The equipment exhibits a distinct change in performance - this indicates a need for service.
18. Do not attempt to service beyond that described in the operating instructions. All other service should be referred to qualified service personnel.
19. When replacement parts are required, be sure the service technician has used replacement parts specified by McIntosh or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Introduction

Now you can take advantage of traditional McIntosh standards of excellence in the MCC222 power amplifier. Two 110 watt high current output channels will drive any high quality loudspeaker system to its ultimate performance. The MCC222 reproduction is sonically transparent and absolutely accurate. The McIntosh Sound is "The Sound of the Music Itself."

Performance Features

• Power Output

The MCC222 consists of two separate power amplifier channels, each capable of 110 watts into 4ohm speakers with less than 0.005% distortion.

• Two Bridgeable channels

The MCC222 includes two 110 watt amplifier channels which can be set in bridged configuration for 220 watts output.

• High Current Output

A peak output current of 35 amperes ensures that the MCC222 will successfully drive high quality loudspeakers such as McIntosh for a truly exciting sound experience.

• Built-in Selectable Crossover Filters

Both channels have 18dB per octave high pass filters with selectable corner frequencies of 120Hz or 80Hz to allow use with subwoofers.

• Subwoofer Line Output

A line level low pass filter output is provided to drive an external subwoofer power amplifier. The inputs of both channels are summed for this output.

• Noise Canceling Inputs

Interference produced by other sources in a vehicle are not amplified by the MCC222.

• Power Guard

Both channels include the patented McIntosh Power Guard circuit that prevents the amplifier from being overdriven into clipping with its harsh distorted sound that can also damage your valuable loudspeakers.

• Sentry Monitor

McIntosh Sentry Monitor power output stage protection circuits are present on both channels to ensure the MCC222 will have a long and trouble free operating life.

• Speaker Protection

If for any reason, a DC (Direct Current) voltage appears at the speaker output terminals, a built-in circuit turns off the amplifier power supplies to prevent damage to your valuable loudspeakers.

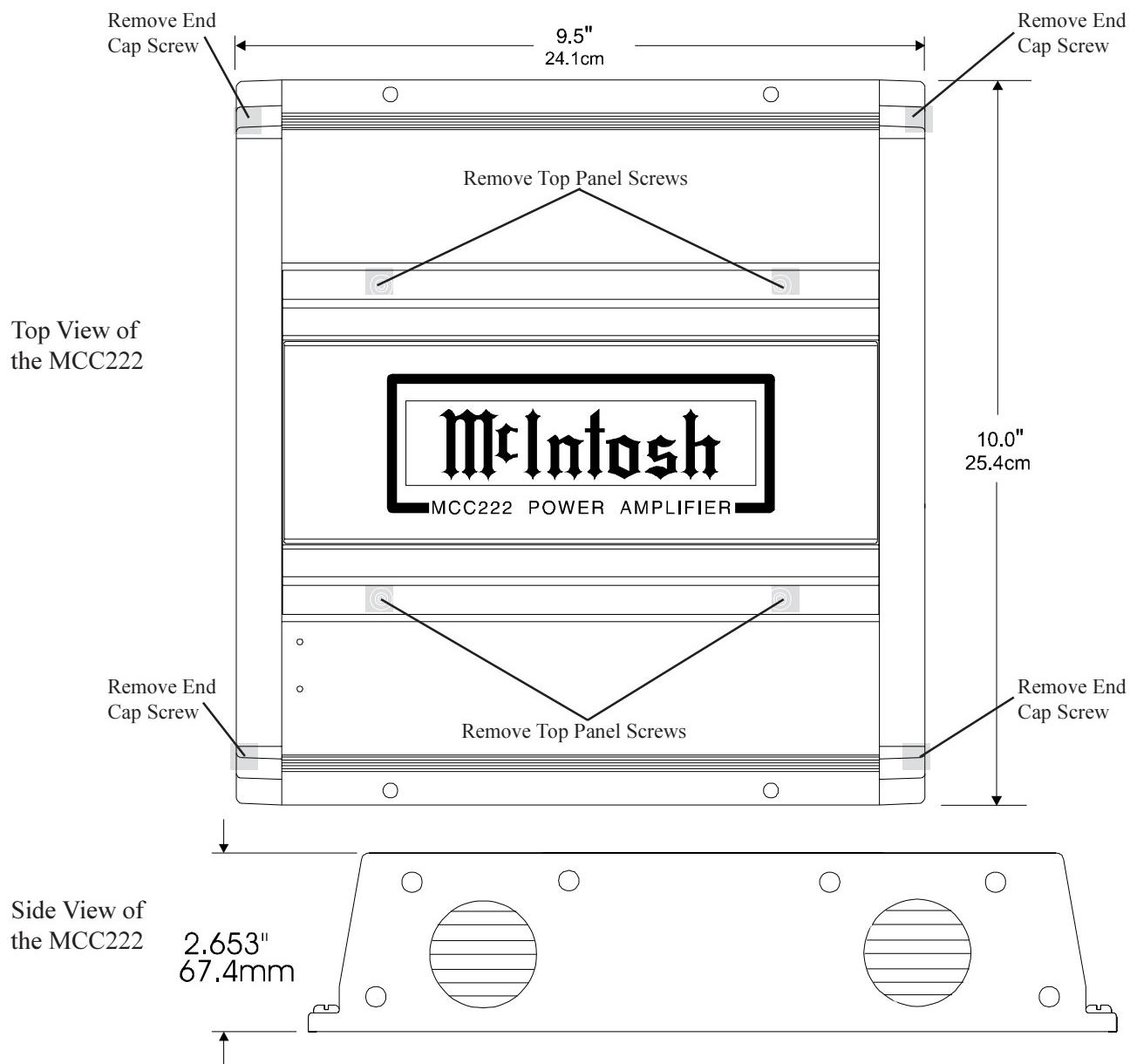
Installation

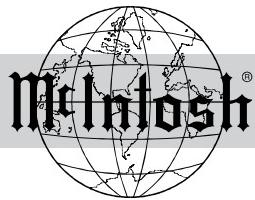
It is recommended that the MCC222 and any associated mobile audio equipment be installed by a professional who is skilled in all aspects of installation and operation.

Always provide adequate ventilation for the MCC222. The amplifier requires air flow in and out of the sides of the heatsinks. Be sure to provide at least 1 inch clearance at the sides of the heatsinks. The amplifier can be mounted vertically or horizontally and may be located under a seat if adequate clearance is available. The preferred installation method is to mount the amplifier directly to the vehicle main frame using the hardware supplied with the amplifier.

It is not recommended that the amplifier not be mounted under the hood or in a location where it will be directly exposed to the elements. The openings in the side vents can be damaged by exposure to water, chemicals or any form of road dust or debris.

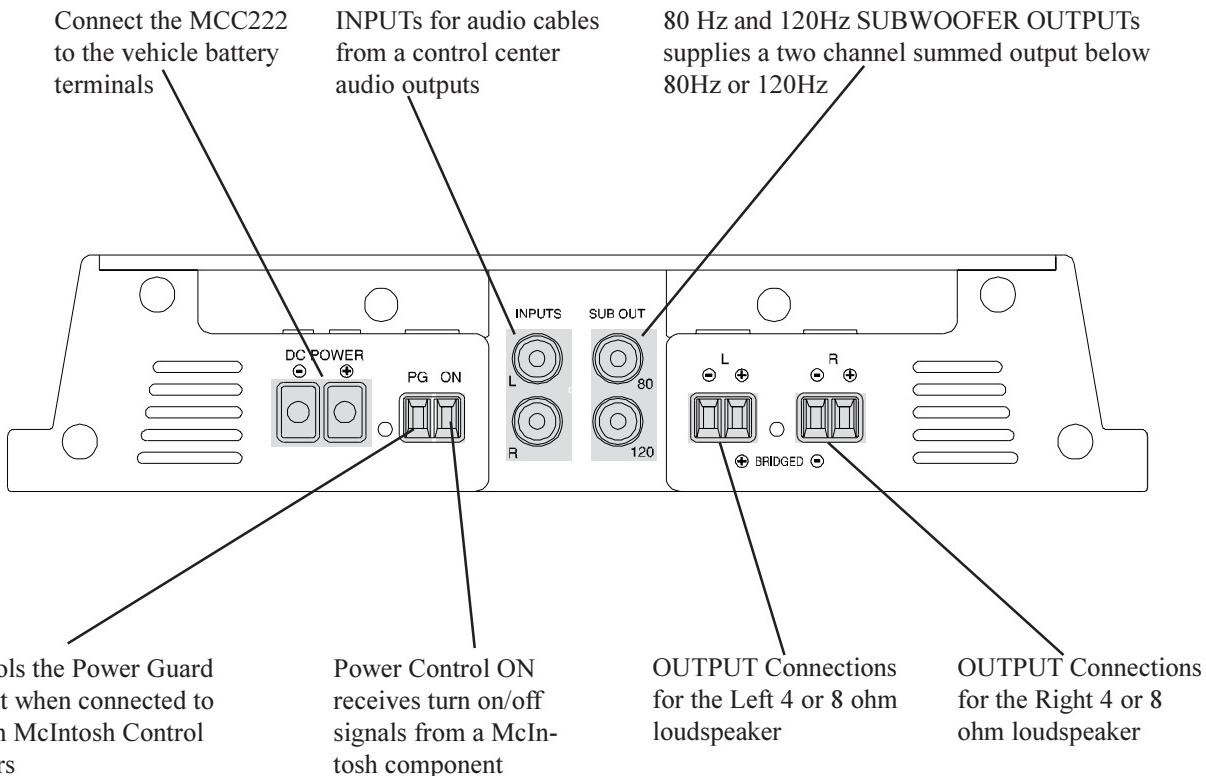
To access the connecting terminals, remove the screws holding the gold end caps on both sides of the amplifier and lift the end caps off. The Top Panel Controls and Switches are accessible by removing the Top Panel by removing the four screws and carefully lifting off the top panel.





MCC222 Side Panel Connections

MCC222 Side Panel Connections



How to Connect the MCC222

1. Connect the power control cable from the Control Center Remote Amp On to the MCC222 ON connector on the right side of the amplifier.
2. Connect cables from two separate loudspeakers to the amplifier Left and Right terminals, being careful to observe the correct polarities.
4. Connect audio cables from the control center outputs to the MCC222 Left and Right Inputs.

Note: All cables should be connected to the amplifier before connecting the DC power cables to the battery.

5. Connect the MCC222 to the vehicle battery terminals using a minimum size of 8 AWG cables.

Note: If the amplifier is mounted to an insulated mounting surface, connect a 10 AWG wire (minimum size) from

the amplifier chassis directly to the vehicle main frame using the hardware shown in figure 1.

6. Optional Connections allow the always active 80Hz and 120Hz Subwoofer Outputs to be connected to a separate subwoofer power amplifier, regardless of the MCC222 operating mode used.

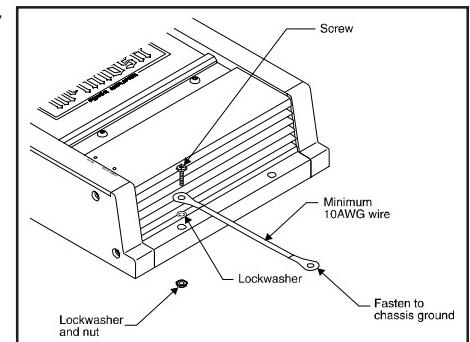
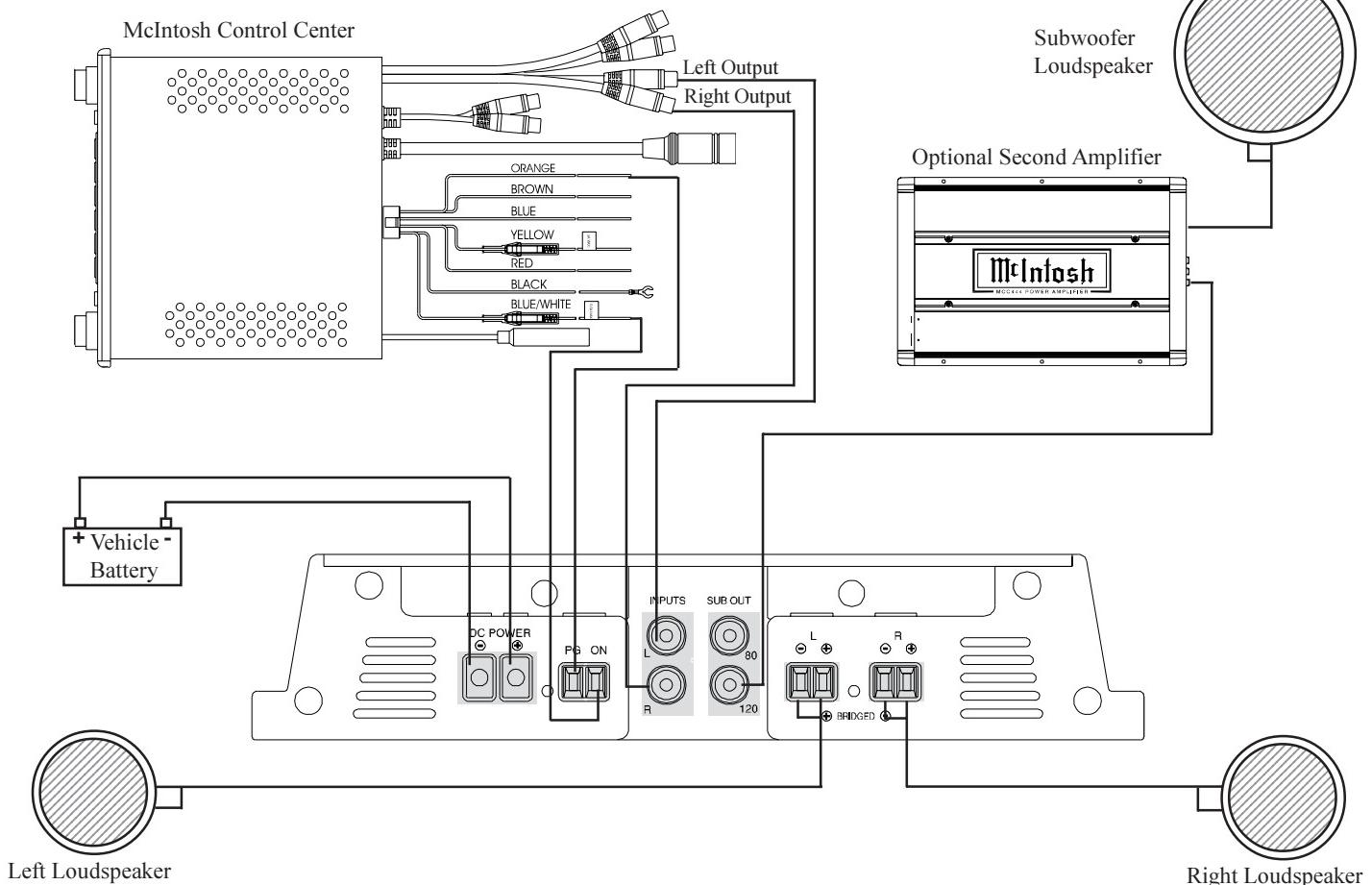
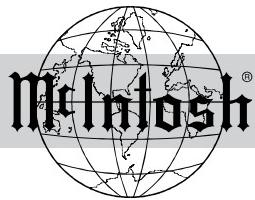


Figure 1





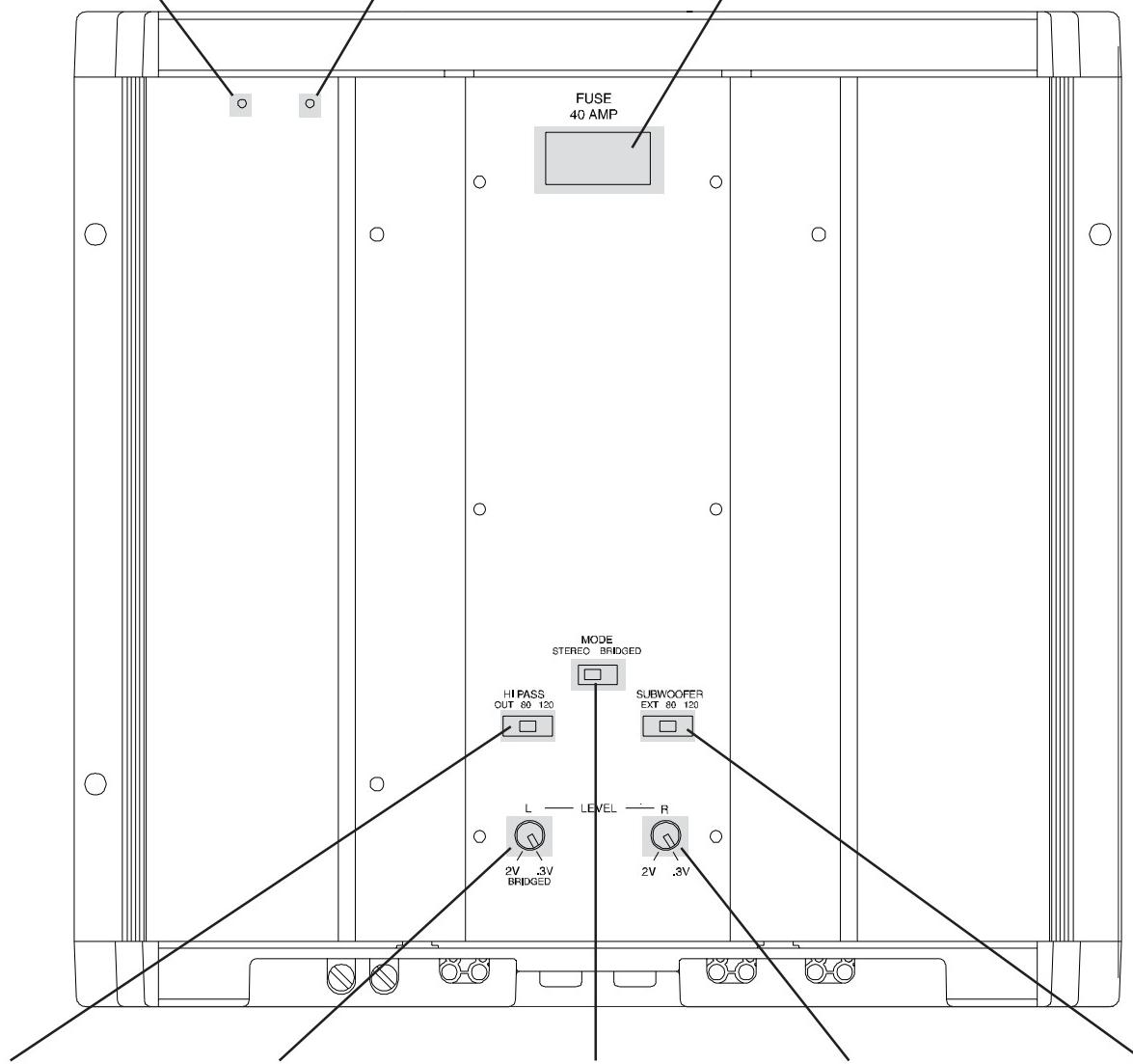
MCC222 Top Panel Controls, Displays and Switch

MCC222 Top Panel Controls, Displays and Switch

POWER GUARD LED lights when any amplifier channel Power Guard circuit activates

POWER On Indicator

Main Fuse holder, refer to information on the top panel of your MCC222 to determine the correct fuse rating



HI-PASS FILTER switch selects two different roll-off frequencies or flat frequency response

Left Input LEVEL control

STEREO - BRIDGE mode switch selects two different modes of operation

Right Input LEVEL control

SUBWOOFER switch selects two different roll-off frequencies or flat frequency response

How to Operate the MCC222 in Stereo, Bridge or Subwoofer Mode

How to Operate Stereo Mode

In the Stereo Operating Mode, both channels operate as independent full frequency range 110 watt amplifiers.

Input Level Controls

The Level controls allow you to set the input sensitivity of both amplifier channels to provide an ideal match for the Control Center being used.. A good measure is to set the MCC222 level controls so the Control Center volume is approximately at its mid position for normal listening levels. The Level controls can be set for any sensitivity from 3 volts to 0.3 volts. Refer to figure 2.



Figure 2

Power

The MCC222 will turn on or off when the Control Center turns on or off.

Note: There must be a Power Control connection between the MCC222 and the McIntosh Control Center in order for the amplifier remote power turn On and Off to function.

Stereo Mode

Set the Mode switch to the Stereo position to configure the amplifier for stereo operation. Refer to Figure 3.

Hi-Pass Filter

Set the Hi-Pass filter switch to the Out position since both channels are operating at full frequency range. If the amp is used in a multi amp system to feed a midrange and tweeter along with a separate subwoofer amp, set the switch to either the 80 or 120 position. Refer to Figure 3.

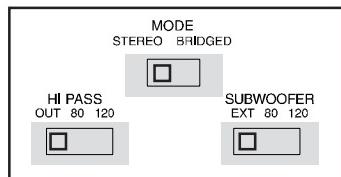


Figure 3

Subwoofer

Set the Subwoofer switch to the Ext position since this function is not used in the stereo mode. Refer to Figure 3.

How to Operate the MCC222 in Bridge or Subwoofer Mode

In the Bridged or Subwoofer mode, the left and right channels are combined to form a single 220 watt amplifier.

Note: Both Bridged output terminals are floating above chassis ground.

Input Level Control

In the Bridged mode, only the Left channel level control adjusts the volume level, refer to figure 4. In the Subwoofer mode both the Left and Right level controls are active, refer to figure 5. A good measure is to set the MCC222 level controls so the Control Center volume is approximately at its mid position for normal listening levels. The Level controls can be set for any sensitivity from 3 volts to 0.3 volts.



Figure 4

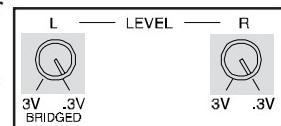


Figure 5

Power

The MCC222 will turn on or off when the Control Center turns on or off.

Note: There must be an Amp ON connection between the MCC222 and the McIntosh Control Center in order for the amplifier power turn On and Off to function.

Bridged Mode

Set the Mode switch to the Bridged position. This mode allows the MC222 to operate as a single 220 watt amplifier. Connect the speakers to the Bridged terminals. Refer to Figures 6 and 7.

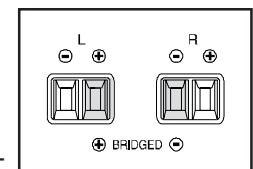


Figure 6

Subwoofer Mode

Set the Subwoofer switch to the 120Hz or 80 Hz position and the MC222 operates as a single 220 watt subwoofer amplifier. Connect the speakers to the Bridged terminals. Refer to Figures 6 and 7.

Hi-Pass Filter

In the Subwoofer mode set the Hi-Pass filter switch to the OUT position when the amp is used. When the Bridged Amplifier is used in a multi amp system to feed a midrange and tweeter along with a separate subwoofer amp, set the switch to either the 80 or 120 position Refer to Figures 7.

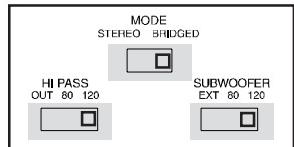


Figure 7



Specifications

Power Output Per Channel

110 watts into 4 ohm load is the minimum sine wave continuous average power output per channel.

Power Output Bridged

220 watts into 4 ohm loads is the minimum sine wave continuous average power output.

Output Load Impedance

4 or 8 ohms

Rated Power Band

20Hz to 20,000Hz

Total Harmonic Distortion

0.005% maximum at any power level from 250 milliwatts to rated power per channel.

Intermodulation Distortion

0.005% maximum if instantaneous peak output per channel does not exceed twice the rated output for any combination of frequencies from 20Hz to 20,000Hz.

Dynamic Headroom

1dB

Frequency Response

+0, -0.25dB from 20Hz to 20,000Hz

+0, -3dB from 10Hz to 50,000Hz

Sensitivity

.3 to 3 volts

Signal To Noise Ratio

110dB below rated output (A-weighted)

Input Impedance

10,000 ohms

Load Stability

2 ohms

Power Requirements

13.7 Volts DC, 1.3 amps (idle) - 35 amps (rated power)

Dimensions

10 inches (25.4 cm) wide, 9.5 inches (24.1 cm) high, 2.653 inches (6.74cm) depth

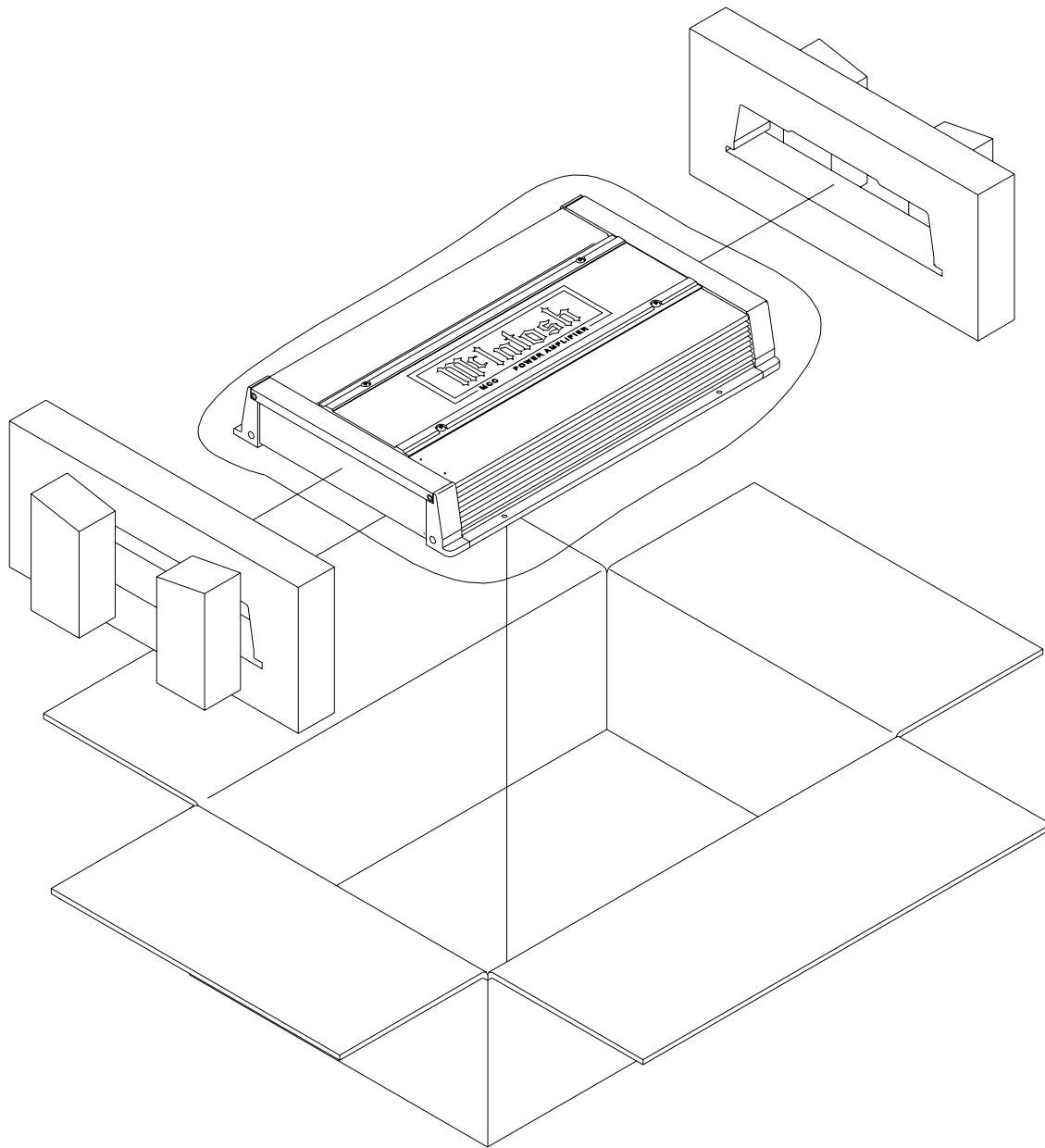
Weight

6.6 pounds (3 Kg) net, 8.6 pounds (3.9 Kg) in shipping carton

Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below. Use the original shipping carton and interior parts only if they are all in good serviceable condition. If a shipping carton or any of the interior part(s) are needed, please call or write Customer Service Department of McIntosh Laboratory. Please see the Part List for the correct part numbers.

Quantity	Part Number	Description
1	034013	Shipping carton only
2	033859	End cap (Foam pad)



McIntosh®

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, NY 13903

McIntosh Part No. 040563